



FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT &amp; TRADEMARK OFFICE

SHEET 1 OF 4  
(REV. 7-80)**LIST OF REFERENCES CITED BY APPLICANT**

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DOCKET NO.: 3153/1F534 US1 SERIAL NO: 09/826,373

APPLICANT: Stephen QUAKE ET AL. FILING DATE: April 4, 2001

**U.S. PATENT DOCUMENTS**

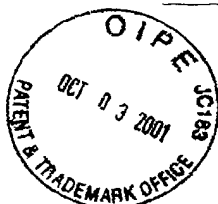
*EXAMINER INITIALS	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
AC ↓ VAC	1. 4,581,624	04/08/86	O'Connor, J.M.	357	26	03/01/84
	2. 4,585,209	04/29/86	Aíne, H.E. et al.	251	129	10/27/83
	3. 5,271,274	12/21/93	van Lintel, H.T.G.	73	597	08/14/91
	4. 5,417,235	05/23/95	Wise et al.	137	1	07/28/93
	5. 5,452,878	09/26/95	Gravesen et al.	251	129.02	12/14/93
	6. 5,800,690	08/01/98	Chow et al.	204	451	07/03/96
	7. 5,948,227	09/07/99	Dubrow	204	455	12/17/97
	8. 5,965,001	10/12/99	Chow et al.	204	600	07/03/97
	9. 6,042,709	03/28/00	Parce et al.	204	453	11/24/98
	10. 6,007,690	12/28/99	Nelson et al.	204	601	07/30/97

**FOREIGN PATENT DOCUMENTS**

*EXAMINER INITIALS	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION YES NO
AC	11. GB 2,264,296	08/25/93	Great Britain	C04B	35/82	Yes
	12. WO 98/52691	11/26/98	PCT	B01L	3/00	Yes

**OTHER REFERENCES****(INCLUDING AUTHOR, TITLE DATE, PERTINENT PAGES, ETC.)****\*EXAMINER  
INITIALS**

13. Angell, et al., "Silicon Micromechanical Devices," *Scientific American*, April 1983, 248: pages 44-55



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\*EXAMINER  
INITIALS

AC

14. A. Ashkin et al. "Optical trapping and manipulation of single cells using infrared laser beams," *Nature*, December 1987, Vol. 330 24/31, pages 769-771
15. A. Ashkin et al., "Optical Trapping and Manipulation of Viruses and Bacteria," *Science*, March 20, 1987, Vol. 235, pages 1518-1520
16. J. P. Brody, et al., "Low Reynolds number micro- fluidic devices," *In Proc. of Solid-State Sensor and Actuator Workshop*, June 1996, pages 105-108
17. Budowle et al., "Analysis of the VNTR Locus DIS80 by the PCR Followed by High-Resolution PAGE," *Am. J. Hum. Gent.*, 1991, Vol. 48, pages 137-144
18. Castro, A., et al., "Fluorescence Detection and Size Measurement of Single DNA Molecules," *Analytical Chemistry*, April 1, 1993, Vol. 65, pages 849-852
19. Hou-Pu Chou, et al., "A microfabricated device for sizing and sorting DNA molecules," *PNAS*, Jan. 1999, Vol. 96, pages 11-13
20. Thesis by Chou, H., "Microfabricated Devices for Rapid DNA Diagnostics," California Institute of Technology, May 30, 2000
21. S. Fiedler, et al., "Dielectrophoretic Sorting of Particles and Cells in a Microsystem," *Analytical Chemistry*, May, 1, 1998, Vol. 70, pages 1909-1915
22. M. J. Fulwyer, "Electronic Separation of Biological Cells by Volume," *Science*, 1974, Vol. 156, pages 910-911
23. Giusti, et al., "Application of Deoxyribonucleic Acid (DNA) Polymorphisms to the Analysis of DNA Recovered from Sperm," *Journal Forensic Sciences*, 1986, Vol. 31, pages 409-417
24. Goodwin, P.M., et al., "Rapid sizing of individual fluorescently stained DNA fragments by flow cytometry," *Nucleic Acids Research*, 1993, Vol. 21, No. 4, pp. 803-806



FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE PATENT &amp; TRADEMARK OFFICE

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\*EXAMINER  
INITIALS

AC

25. D.J. Harrison, et al., "Micromachining a Miniaturized Capillary Electrophoresis-Based Chemical Analysis System on a Chip," *Science*, Aug. 13, 1993, Vol. 26, pages 895-897
26. Jeffreys et al., "Hypervariable 'minisatellite' regions in human DNA," *Nature*, March 7, 1985, Vol. 314, pages 67-72
27. Kanter et al., "Analysis of Restriction Fragment Length Polymorphisms in Deoxyribonucleic Acid (DNA) Recovered from Dried from Dried Bloodstains," *Journal of Forensic Sciences*, April 1986, Vol. 31, No. 2, pages 389-408
28. M. U. Kopp, et al., "Chemical amplification: Continuous-flow PCR on a chip," *Science*, May 15, 1998, Vol. 280 (5366), pages 1046-1048
29. Paul C. H. Li et al., "Transport, Manipulation, and Reaction of Biological Cells On-Chip Using Electrokinetic Effects," *Analytical Chemistry*, Vol. 69, No. 8, pages 1564-1568 April 15, 1997.
30. Manz et al., "Micromachining of monocrystalline silicon and glass for chemical analysis systems," *Trends in Analytical Chemistry*, 1991, Vol. 10, pages 144-149
31. Nakamura et al., "Variable Number of Tandem Repeat (VNTR) Markers for Human Gene Mapping," *Science*, March 27, 1987, Vol. 235, pages 1616-22
32. J. P. Nolan, et al., "The emergence of flow cytometry for sensitive, real-time measurements of molecular interactions," *Nature Biotechnology*, July, 1998, Vol. 16, pages 633-638
33. L.A. Sklar, "Sample handling for kinetics and molecular assembly in flow cytometry," *SPIE*, 1998, Vol. 3256, pages 144-153
34. Thompson, L.F., "Introduction to Micro Lithography," *ACS Symposium Series*, 1983, Vol. 219, pages 1-13



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U.S. DEPARTMENT OF COMMERCE PATENT & TRADEMARK OFFICE

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APPLICANT: Stephen QUAKE ET AL. FILING DATE: April 4, 2001

\*EXAMINER  
INITIALS

AC

35. M.A. Van Dilla et al., "Cell Microfluorometry: A Method for Rapid Fluorescence Measurement," *Science*, 1969, Vol. 163, pages 1213-1214

AC

36. G. Whitesides, Y. Xia, "Soft Lithography," *Angewandte Chemie International Edition* 37, 1998, Vol. 37, pages 550-575

EXAMINER:

*Arum K. Chakrabarti*

DATE CONSIDERED:

*5/1/03*

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CONFIRMATION NO: 2878

**U.S. PATENT DOCUMENTS**

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AC	1. 95/33853	12/14/95	PCT	C12Q	1/68	Yes
AC	2. 0 778 351	06/11/97	Europe	C12Q	1/68	Yes

**OTHER REFERENCES****(INCLUDING AUTHOR, TITLE DATE, PERTINENT PAGES, ETC.)**

\*EXAMINER  
INITIALS

AC 3. Tatari, et al., "HLA-Cw Allele Analysis by PCR-Restriction Fragment Length Polymorphism: Study of Known and Additional Alleles," *Proceedings of the National Academy of Sciences of The United States of America*, September 1995, 92: pages 8803-8807.

AC 4. Ju, et al., "Application of Silver Staining to the Rapid Typing of the Polymorphism of HLA-DQ Alleles by Enzymatic Amplification and Allele-Specific Restriction Fragment Length Polymorphism," *Electrophoresis*, April 1991, 12: pages 270-273.

**LIST OF REFERENCES CITED BY APPLICANT**

(Use Several Sheets if Necessary)

DOCKET NO.: 3153/1F534US1  
APPLICANT: Stephen R. QUAKESERIAL NO: 09/826,373  
FILING DATE: April 4, 2001  
CONFIRMATION NO: 2878\*EXAMINER  
INITIALS

AC

5. Murray, et al., "Detection of Polymorphisms Using Thermal Cycling With A Single Oligonucleotide On A DNA Sequencing Gel," *Human Mutation*, 1993, 2: pages 118-122.

AC

6. Chou, et al., "A Microfabricated Device for Sizing and Sorting DNA Molecules," *Proceedings of the National Academy of Sciences of The United States of America*, January 1999, 96: pages 11-13.

AC

7. Rouhi, "Sizing, Sorting DNA One Piece At A Time," *Chemical and Engineering News, American Chemical Society*, January 1999, 77: pages 5-6.

EXAMINER:

Arjun K. Chakrabarti

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